

# **Egypt**

#### **Home > Country Analysis Briefs > Egypt**

**Search EIA:** 

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Page Links

**Background** 

Oil

**Natural Gas** 

**Electric Power** 

**Environment** 

Profile

Links

**Mailing Lists** 

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Click here for an expansion of the Environment section

November 2000

# **Egypt**

Egypt is a significant oil producer and a rapidly growing gas producer. The Suez Canal and Sumed Pipeline are strategic routes for Persian Gulf oil shipments, making Egypt a focal point in world energy markets.

Note: Information contained in this report is the best available as of November 2000 and can change.



# GENERAL BACKGROUND

The Egyptian economy made remarkable progress in the 1990's, as the government implemented reforms under an IMF stabilization program begun in 1991, accelerated the privatization of state-owned enterprises, whose losses were a major drain on the state treasury, and liberalized rules for foreign investment, resulting in greatly increased foreign business interest in Egypt.

Egypt's real gross domestic product (GDP) grew at a 5.0% pace in 1999, and growth for 2000 is projected at 4.5%. The slight slowdown in economic growth is in part attributable to the government's tight monetary policy to support the value of the Egyptian pound against the dollar, and real GDP growth is projected to climb back to 5.9% in 2001. Tourism revenues account for about 5% of Egypt's GDP, and are among the country's five main sources of hard currency inflows (the others being

remittances from Egyptian workers abroad, oil exports, Suez Canal tolls, and foreign aid). Overall, Egypt's long-term macroeconomic prospects look favorable, with progress set to accelerate on such structural issues as privatization, trade liberalization, and deregulation. Egypt's main challenge is matching employment growth to the estimated 500,000 new job seekers coming into the labor market each year. Unofficial estimates put Egypt's unemployment rate at 17%-19%, twice the official figure. To lower unemployment, Egypt needs to maintain a high rate of GDP growth and to bring in more foreign investment.

Egypt's government plans to accelerate its program for the privatization of state-owned enterprises (SOE's). The privatization program moved slowly in the early to mid-1990's due to the large debts of SOE's and severe overstaffing (layoffs were largely prevented by regulations). In recent years, the private sector percentage of overall GDP has been growing by around 1.5% per year. The government plans to target "strategic" areas for privatization, including telecommunications and other utilities, including the Egyptian Electricity Authority (although the Egyptian General Petroleum Corporation - EGPC - remains off limits).

Energy will continue to play an important role in Egypt's economy. While oil exports have been declining as production has fallen at mature oilfields and domestic consumption has risen, gas exports are expected to become a major source of hard currency revenues over the next decade.

#### **OIL**

Egypt produced an average of 852,000 barrels per day (bbl/d) of crude oil in 1999. This is a decline from a high point of 922,000 bbl/d in 1996. Meanwhile, domestic consumption of petroleum products increased from 501,000 bbl/d in 1996 to an estimated 573,000 bbl/d in 1999, in response to strong economic growth. There are fears that the country could become a net oil importer by 2010. Egypt is hoping that exploration activity, particularly in new areas, will discover sufficient oil in coming years to maintain crude oil production comfortably above 800,000 bbl/d. Egyptian oil production comes from 4 main areas: the Gulf of Suez (about 70%), the Western Desert, the Eastern Desert, and the Sinai Peninsula. The Egyptian government released a revised estimate of probable crude oil reserves in early 2000, raising the figure to 8.2 billion barrels based on new finds and increased recovery ratios.

Oil from the Gulf of Suez basin is produced mainly by Gupco (Gulf of Suez Petroleum Company) a joint venture between BP-Amoco and the Egyptian General Petroleum Corp. (EGPC). Production in the Gupco fields, with most wells in operation since the 1960s and 1970s, is falling rapidly. Gupco is attempting to slow the natural decline in its fields through significant investments in enhanced oil production as well as increased exploration. BP Amoco is undertaking a program to invest \$450 million over six years in technology to prolong the production life of Gulf of Suez fields. Egypt's second largest oil producer is Petrobel, which is a joint venture between EGPC and Agip of Italy. Petrobel operates the Belayim fields near the Gulf of Suez, and also is undertaking an upgrade program to stem declining production. Other major companies in the Egyptian oil industry include Badr el-Din Petroleum Company (EGPC and Shell); Suez Oil Company (EGPC and Deminex); and El Zaafarana Oil Company (EGPC and British Gas -- BG).

Egypt's overall oil production has declined more slowly than the Gulf of Suez fields due to new output from independent producers like Apache and Seagull Energy at smaller fields, especially in the Western Desert and Upper Egypt. Crude production in the Qarun block, for instance, reached around 60,000 bbl/d by early 2000. Apache and Seagull have developed the Beni Suef IX field in the East Beni Suef concession in Upper Egypt, which produces over 5,000 bbl/d. The field is said to contain around 100 million barrels of crude oil. A joint venture between EGPC and Agip also is producing about 48,000 bbl/d from an area in the Qattara Depression in the Western Desert, in the Meleiha and West Razzaq blocks.

Spain's Repsol currently is expanding its oil output in Egypt's Western Desert to 60,000 bbl/d (from 32,000 bbl/d in early 1997). A joint venture of Repsol (50%), along with Apache (40%), and Australia's Novus (10%), operates the Khalda concession, currently producing 35,300 bbl/d of oil. The partners have announced a number of successful wells over the last year.

Offshore production possibilities in the Mediterranean are beginning to be explored. The largest concession awarded from the most recent bidding round went to Shell in February 1999, for a large deepwater area off Egypt's Mediterranean coast. BP Amoco and Elf Aquitaine also have been awarded a large offshore block. A smaller offshore concession was awarded to Italy's ENI-Agip. While most discoveries offshore from the Nile Delta have been gas, it is believed that there may also be large quantities of oil in the area. Shell reportedly is very optimistic about the prospects for its North East Mediterranean Deepwater concession, based on initial seismic survey data.

#### **Suez Canal / Sumed Pipeline**

In addition to its role as an oil exporter, Egypt has strategic importance because of its operation of the <u>Suez Canal and Sumed (Suez-Mediterranean) Pipeline</u>, two routes for export of Persian Gulf oil. Tanker traffic and revenues have declined over the last decade as a result of competition from oil pipelines and the alternate route around the Cape of Good Hope in South Africa. The decline seems to have stopped recently, with revenues rising slightly in 1999, in part due to new pricing offered by the Suez Canal Authority. The SCA offers a 35% discount to liquefied natural gas (LNG) tankers, with even deeper discounts for the largest LNG tankers, as well as other discounts for oil tankers.

The SCA is continuing enhancement and enlargement projects on the canal. The canal has been deepened so that it can accept the world's largest bulk carriers, but it will need to be deepened further to 68 or 70 feet, from the current 58 feet, to accommodate fully laden very large crude carriers (VLCCs). The SCA has attempted to reach an agreement with its main competition for northbound crude traffic, the Sumed pipeline. Such an agreement could bar any tanker small enough to traverse the canal from transporting oil through the pipeline. The SCA offers incentives for tankers to off-load a portion of its cargo through the Sumed, allowing for passage through the canal, and reloading at the other end of the pipeline.

The Sumed pipeline is an alternative to the Suez Canal for transporting oil from the Persian Gulf region to the Mediterranean. The 200-mile pipeline runs from Ain Sukhna on the Gulf of Suez to Sidi Kerir on the Mediterranean. The Sumed's original capacity was 1.6 million bbl/d, but with completion of the Dashour pumping station, located south of Cairo, capacity has increased to 2.5 million bbl/d. The pipeline is owned by the Arab Petroleum Pipeline Company (APP), a joint venture between Egypt (50%), Saudi Arabia (15%), Kuwait (15%), the U.A.E. (15%), and Qatar (5%). The APP also has been increasing storage capacity at the Ain Sukhna and Sidi Kerir terminals.

#### **Refining and Petrochemicals**

Egypt's eight refineries are able to process more than 577,000 bbl/d of crude, with the largest refinery being the 145,000-bbl/d Mostorod refinery outside of Cairo. The government has plans to increase production of lighter products, petrochemicals, and higher octane gasoline by expanding and upgrading existing facilities. In addition, Egypt's Ministry of Petroleum plans to build five new refineries and petrochemical plants valued at \$2.5 billion.

A contract for construction of the 100,000-bbl/d, Egyptian-Israeli joint venture MIDOR (Middle East Oil Refinery Ltd.) refinery in Alexandria entered into effect in July 1997. The ultra-modern, environmentally-advanced facility is expected to cost about \$1.3 billion and will include a 25,000-bbl/d hydrocracker. The original plan was for the facility to be mainly export oriented, with only 20% of production sold in Egypt, but recent reports indicate plans for 50% or more of the products to be sold locally, due to increasing domestic demand. The project represents the largest Arab-Israeli joint venture to date. In January 1997, EGPC acquired an additional 20% equity from Israel's Merhav and from the local Hussein K. Salem Group to push its share in the venture to 60%. Each of the private investors retains a 20% share in the project. Recent reports indicate that EGPC may intend to sell off some of its holding to foreign investors. Spain's Repsol is set to manage the plant when it comes online in 2001.

Expansions also are being planned for Egypt's petrochemical sector. The Oriental Petrochemicals Company, a local private venture, is planning to build a polypropylene plant in Alexandria that will utilize natural gas from Western Desert fields as feedstock. The plant is expected to cost about \$80 million and to produce more than 120,000 metric tons of polypropylene annually. The Egyptian Petrochemicals Company (EPC), a subsidiary of EGPC, has announced plans for two new petrochemical plants. The first is for an ethylene plant with the capacity to produce 331,000 tons annually. A polyethylene plant with capacity of 220,000 tons also is planned, with the license for the plant having been awarded to BP Amoco Chemicals. Another polypropylene project is planned for Suez, with a 400,000 tons-per-year capacity. It will be a joint venture between EGPC, Oriental Weavers, and Persian Gulf investors.

#### **NATURAL GAS**

Due to major recent discoveries, natural gas is likely to be the primary growth engine of Egypt's energy sector for the foreseeable fututre. Foreign oil companies began more active exploration for natural gas in Egypt beginning in the early 1990s, and in short order they found a series of significant gas deposits -- in the Nile Delta and the Western Desert. Today, Egypt's natural gas sector is expanding rapidly, with production expected to nearly double between 1999 and 2002. Production stood at 2.3 billion cubic feet per day (Bcf/d) at the end of 1999, and it is expected to reach 3.0 Bcf/d y the end of 2002. Major foreign companies involved in gas exploration and production in Egypt include British Gas (BG), BP Amoco, ENI-Agip, and Shell. Spain's Repsol and Apache also produce gas from their concessions in the Western Desert.

Egypt's government released a revised estimate of proven natural gas reserves in January 2000, which put the figure at 42.5 trillion cubic feet (Tcf). New finds had doubled proven gas reserves in only three years. It was also stated that, based on initial seismic survey work in offshore areas, probable reserves were 120 Tcf. Most of this increase has come about as a result of new gas discoveries in the Mediterranean offshore/Nile Delta region, and some finds in the Western Desert. In the Nile Delta, which has emerged as a world-class gas basin, recent offshore field developments include Port Fuad, South Temsah, and Wakah. In the Western Desert, the Obeiyed Field is an important natural gas area currently under development.

The International Egyptian Oil Company (IEOC), a subsidiary of Italy's ENI-Agip group, is Egypt's leading natural gas (and overall hydrocarbons) producer, operating in the Gulf of Suez, the Nile Delta, and the Western Desert regions. In cooperation with BP Amoco, IEOC has been concentrating its natural gas exploration and development efforts in the Nile Delta region. The companies are undertaking a \$1 billion development program expected to yield about 365 Bcf annually beginning in 2000. On November 4, 1997, BP Amoco (along with its partners EGPC and IEOC) announced plans to develop the giant Ha'py gas field in the Ras el-Barr concession of the Nile Delta region at an estimated cost of \$248 million. The field came onstream in February 2000, and is espected to reach output of 280 million cubic feet per day (Mmcf/d) by December 2000. In September 1997, IEOC tested the Temsah gas field (located in the offshore Nile Delta) at 11.6 Mmcf/d. In October 1998, BP-Amoco (25% owner) and ENI-Agip signed a gas sales agreement with EGPC (50% owner) and IEOC (25% owner) for Temsah. Temsah's gas reserves are estimated at 3.9 Tcf, and the gas sales agreement is for 35 Mmcf/d initially in 2000, increasing to 480 Mmcf/d by 2003.

Two areas in the Western Desert -- Obeiyed and Khalda -- have shown great potential for increasing Egypt's gas production in the near future. The Obeiyed gas recently started producing 300 Mmcf/d, after the completion of a pipeline linking it to Alexandria. Production of 300 Mmcf/d started at Khalda. In late 1998, Repsol announced a gas discovery in the Khalda Offset Concession, adjacent to Khalda. Output from Obeiyed and Khalda will be transported to Alexandria by a 180-mile pipeline. BP-Amoco and the IEOC also are preparing to bring several fields off the Nile Delta coast into production. Other companies with recent gas finds in Egypt include: Petrobel (the Sigan-1 field), Agip/EGPC (Wakkar), and the U.K.-based BG Group (Rosetta-5 and Rosetta-6). These three finds are all in the Nile Delta region. Gas deliveries from the Rosetta concession began in 2000.

Much of the growth in gas production in the next decade, however, will be from areas offshore from the Nile Delta. In May 1999, the Italian firm Edison and the BG Group made a large find ("P12/13") in their West Delta Deep Marine concession, which tested at 45 Mmcf/d, followed by another ("Simian-1") which tested at 44 Mmcf/d in October 1999. The two companies announced in July 2000 that their second and third wells at the field also had tested successfully at a similar flow rate, which was contrained by the capacity of the equipment. Another successful test well drilled on another structure within the same concession also was announced in September 2000. The fields are expected to be developed and brought onstream by 2003. BP Amoco and Shell also have concessions offshore from the Nile Delta, and initial seismic survey work and exploratory drilling has indicated significant probable reserves. Shell has announced that probable reserves in its Northeast Mediterranean (NEMED) concession are 15 Tcf. ExxonMobil also holds a 25% stake in this concession.

Natural gas demand has grown rapidly in Egypt as thermal power plants, which account for about 65% of Egypt's total gas consumption, have switched from oil to gas. Domestic gas consumers are to be served by several private gas distributors, franchises which were awarded in late 1998. One of the franchises, awarded

to a team headed by BG and including the Egyptian construction firm Orascom and Edison of Italy, is developing a gas distribution infrastructure in Upper Egypt as far south as Asyut, where no piped gas had been available. After the initial phase, valued at \$220 million, a possible later phase may extend the gas grid south to Aswan. The rapid rise in natural gas reserves has led to a search for export options. In late 1999, the Egyptian government stated that natural gas reserves were more than sufficient for domestic needs, and that foreign firms producing gas in Egypt should seek export customers. In early 2000, the government announced a moratorium on new purchase agreements by EGPC for domestic consumption, as previously signed agreements will meet projected demand over the next several years. It also announced in September 2000 a new pricing policy which includes ceiling and floor prices, designed to protect both consumers and producers from the risks of prices indexed to oil. Export options under discussion have included Liquefied Natural Gas (LNG) plants and a pipeline to Israel with a possible extension onward to Turkey.

The four LNG projects currently under discussion are backed by Union Fenosa (the Spanish utility firm), BG and Edison, and BP Amoco. Union Fenosa signed a firm contract with EGPC in July 2000 for the purchase of gas for an LNG gasification terminal which is to be completed by 2004 on the Nile Delta coast. The planned capacity for the facility is 141 Bcf-per-year. Most of the gas will be used at Union Fenosa power plants in Spain, with additional volumes being sold to other customers in Spain and elsewhere in Europe. BP Amoco has signed a letter of intent with EGPC for a two-train LNG terminal to be completed by 2004. The project would also include a facility to produce liquefied petroleum gas (LPG), of which Egypt currently imports a large share of its consumption. Shell also is proposing such a dual-use facility. It would involve both an LNG export terminal and a facility for 75,000 bbl/d gas-to-liquids production of petroleum products for the growing local market. BG and Edison are backing a plan to build a 141 Bcf-per-year LNG terminal near Idku on the Nile Delta coast. It seems likely that some of these export projects could eventually be consolidated.

The idea of exporting gas to Israel has been under discussion for several years. The most ambitious version of the scheme would involve the construction of an offshore pipeline from El-Arish in Sinai up the coast of Israel, with a possible extension onward to Turkey. The East Mediterranean Gas Company (a consortium of EGPC, Merhav of Israel, and Egyptian businessman Hussein Salem) has been set up to pursue the project. ENI has nearly completed a pipeline up Egypt's Mediterranean coast to El-Arish, which could serve as a starting point for the export pipeline. Recent gas finds offshore from Israel have raised questions about Israel's need for imports, however. The Egyptian and Israel governments have held discussions of the proposal in 2000, but have not signed an agreement. Recent political tensions in the region may further delay the negotiations.

# **ELECTRIC POWER**

Egypt has installed generating capacity of 17 gigawatts (GW), with plans to add 9.3 additional GW (mainly gas-fired) by 2010. Around 84% of Egypt's electric generating capacity is thermal (gas turbines), with the remaining 16% hydroelectric, mostly from the Aswan High Dam. All oil-fired plants have been converted to run on natural gas in a recently completed program. With electricity demand growing 7%-8% annually, Egypt is building several power plants and is considering limited privatization of the electric power sector. Egypt's power sector is currently comprised of seven regional state-owned power production and distribution companies, which were held by the Egyptian Electricity Authority (EEA). In July 2000, the EEA was converted into a holding company, though still owned by the state. Current reform plans call for the separation of generation, transmission, and distribution. Distribution companies will eventually be privatized, while the Egyptian Electric Holding Company (EEHC) will continue to hold transmission lines and power generation. New power generation will come almost exclusively from privately funded projects, which will sell to EEHC.

Egypt is planning to add generating capacity by utilizing Build, Own, Operate, and Transfer (BOOT) financing schemes to construct power plants. BOOT projects are used to fund large-scale public infrastructure without affecting the country's debt profile. Private developers are allowed to recover their costs of construction through ownership and operation of the plant for a fixed period before handing it over to the state. The first BOOT project was a gas-fired steam power plant with two 325-MW generating units, located at Sidi Kerir on the Gulf of Suez, which was completed in September 2000. The plant cost \$450

million. Electricity from the plant is to be sold at 2.54 cents per kilowatthour. This competitive price stems largely from the availability of cheap natural gas -- to be supplied by Egypt's Gasco -- as a feedstock. U.S.-based InterGen (a joint venture of Bechtel Enterprises and Shell Generating Ltd.), along with local partners Kato Investment and First Arabian Development and Investment, have the 20-year BOOT contract for Sidi Kerir. The second BOOT power project award went to Electricite de France (EDF), for two gas-fired plants to be located near the north and south ends of the Suez Canal. Each plant will have an installed capacity of 650 MW, and the project cost will total around \$900 million. The price for power from the EDF plants will be 2.4 cents per Kilowatt hour (Kwh), the lowest price yet offered for a BOOT plant. Planned future projects are 750-MW plants planned for Nubariya in the western Nile Delta, a 750-MW addition to the Cairo North power complex, and smaller hydroelectric projects at Nag Hammadi and Asyut. The Nubariya plant may be financed with loans from Persian Gulf investors, rather than as a BOOT project.

Egypt also is planning to build a part-solar power plant at Kureimat as a BOOT project, which will have 30 MW of solar capacity out of a total planned capacity of 150 MW. The World Bank will provide a financing package from its Global Environmental Facility which will offset the cost difference between the solar capacity and thermal capacity. A Netherlands-funded project is building 60-MW of wind power units in the Suez Canal area. Egypt also has a 22-MW nuclear research reactor at Inshas in the Nile Delta, built by INVAP S.A. of Argentina, which began operation in 1997.

Work is continuing on the linkage of Egypt's electricity network with other countries in the region, including a \$239-million link with Jordan which was completed in October 1998. The first phase of a Five-Country interconnection of Egypt's system with those of Jordan, Syria, Turkey, and Iraq is scheduled to be completed by 2002. Egypt also activated a link to Libya's electric grid in December 1999. Other interconnections with Egypt's electricity network are being studied, including an Arab East (Egypt, Bahrain, Jordan, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen) interconnection, as well as one with Israel, Jordan, and the Palestinian Authority. Saudi Arabia and its partners in the Gulf Cooperation Council are building their own unified power grid, which they hope to integrate later into a wider Arab network. The Arab Maghreb and the Five-Country interconnections will help form an even larger system interconnection, the Mediterranean Power Pool (MPP), which will link the Middle East, North Africa, and Europe. The anticipated completion date of the MPP is 2015.

# **ENVIRONMENT**

In a country that is predominantly desert, the Nile River provides the lifeblood for Egypt's population. With 96% of Egyptians living astride the river, <u>environmental issues</u> are a central component of Egyptian life. Population growth, modernization, and increased economic development have brought environmental problems to the forefront, especially <u>air pollution</u>. In Cairo, emissions from vehicles and lead smelters, together with sand blowing in from the adjacent Western Desert, have created high levels of particulate matter in the air--a deadly combination for public health in the densely-populated capital.

Sources for this report include: CIA World Factbook 2000; Dow Jones News Wire service; Economist Intelligence Unit ViewsWire; Hart's Africa Oil and Gas; Middle East Economic Digest; Oil and Gas Journal; Petroleum Economist; Petroleum Intelligence Weekly; International Market Insight Reports; U.S. Energy Information Administration; WEFA Middle East Economic Outlook; World Gas Intelligence.

#### **COUNTRY OVERVIEW**

**President:** Mohammed Hosni Mubarak (since October 1981)

Prime Minister: Atef Obeid (since October 1999)

Independence: February 28, 1922 (from the United Kingdom)

Population (7/00E): 68.4 million

Location/Size: Northern Africa/1,001,450 sq. km (386,662 sq. miles), about the size of Texas and New

Mexico

Major Cities: Cairo (capital), Alexandria, Aswan, Asyut, Giza, Ismailiya, Port Said, Suez, Tanta

Languages: Arabic (official), English, French

**Ethnic Groups:** Egyptian, Bedouin, and Berber compose 99% of the population

**Religions:** Sunni Muslim (94%), Coptic Christian (6%)

**Defense (8/98):** Army (320,000), Air Defense Command (80,000), Air Force (30,000), Navy (20,000), Reserves (254,000)

#### **ECONOMIC OVERVIEW**

**Currency:** Pound (P)

Market Exchange Rate (10/30/00): P 3.79 = \$1 U.S.

Nominal Gross Domestic Product (GDP) (2000E): \$97.1 billion

Real GDP Growth Rate (2000E): 4.5%

**Inflation Rate (2000E):** 3.5%

Current Account Balance (2000E): -\$1.8 billion

Major Trading Partners (2000): United States, Italy, Germany, Japan

Merchandise Exports (2000E): \$5.2 billion Merchandise Imports (2000E): \$16.0 billion

Merchandise Trade Balance (2000E): -\$10.8 billion

Major Export Products: Crude oil and petroleum products; cotton yarn and textiles; engineering and

metallurgical goods; agricultural goods and raw cotton

Major Import Products: Machinery and transport equipment; livestock; food and beverages

Net International Reserves (2000E): \$20.7 billion

Total External Debt (2000E): \$34.7 billion

# **ENERGY OVERVIEW**

Energy Ministers: Sameh Fahmy (Minister of Petroleum), Ali el-Saidi (Minister of Electricity and Energy)

**Proven Oil Reserves (1/1/00E):** 2.9 billion barrels

Oil Production (August 2000): 794,000 barrels per day (bbl/d), of which 720,000 bbl/d is crude oil

**Oil Consumption (2000E):** 573,000 bbl/d **Net Oil Exports (1999E):** 352,000 bbl/d

Crude Refining Capacity (1/1/00E): 577,760 bbl/d

Natural Gas Reserves (Jan. 2000E, as stated by Egyptian government): 42.5 trillion cubic feet (Tcf)

Natural Gas Production (1998E): 0.5 Tcf Natural Gas Consumption (1998E): 0.5 Tcf

Recoverable Coal Reserves (12/31/96E): 24 million short tons (Mmst)

Coal Production (1998E): 0.4 Mmst Coal Consumption (1998E): 1.7 Mmst

Electric Generation Capacity (1/1/98E): 17 gigawatts (84% thermal, 16% hydroelectric)

Electricity Generation (1998E): 57.8 billion kilowatthours

# **ENVIRONMENTAL OVERVIEW**

Minister of Environment Affairs: Nadia Riad Makram Ebeid

**Total Energy Consumption (1999E):** 2.0 quadrillion Btu (0.53% of world total energy consumption) **Energy-Related Carbon Emissions (1999E):** 33.5 million metric tons of carbon (0.54% of world carbon emissions)

Per Capita Energy Consumption (1999E): 31.4 million Btu (vs. U.S. value of 355.8 million Btu)

**Per Capita Carbon Emissions (1999E):** 0.52 metric tons of carbon (vs. U.S. value of 5.5 metric tons of carbon)

Energy Intensity (1999E): 22,268 Btu/\$1990 (vs. U.S. value of 12,638 Btu/\$1990)\*\*

**Carbon Intensity (1999E):** 0.37 metric tons of carbon/thousand \$1990 (vs. U.S. value of 0.19 metric tons/thousand \$1990)\*\*

**Sectoral Share of Energy Consumption (1998E):** Residential (21.3%), Industrial (53.3%), Transportation (20.2%), Commercial (5.2%)

**Sectoral Share of Carbon Emissions (1998E):** Transportation (19.3%), Industrial (54.0%), Commercial (4.5%), Residential (22.2%)

 $\textbf{Fuel Share of Energy Consumption (1999E):} \ Oil \ (60.9\%), \ Natural \ Gas \ (28.4\%), \ Coal \ (2.9\%)$ 

**Fuel Share of Carbon Emissions (1999E):** Oil (69.7%), Natural Gas (26.0%), Coal (4.2%)

Renewable Energy Consumption (1998E): 179 trillion Btu\* (1% increase from 1997)

Number of People per Motor Vehicle (1998): 33.3 (vs. U.S. value of 1.3)

**Status in Climate Change Negotiations:** Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified December 5th, 1994). Signatory to the Kyoto Protocol (signed March 3, 1999- not yet ratified).

**Major Environmental Issues:** Agricultural land being lost to urbanization and windblown sands; increasing soil salinization below Aswan High Dam; desertification; oil pollution threatening coral reefs, beaches, and marine habitats; other water pollution from agricultural pesticides, raw sewage, and industrial effluents; very limited natural fresh water resources away from the Nile which is the only perennial water source; rapid growth in population overstraining natural resources.

**Major International Environmental Agreements:** A party to Conventions on Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling.

\* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

\*\*GDP based on EIA International Energy Annual 1999

# **OIL and GAS INDUSTRIES**

**State Oil Company:** Egyptian General Petroleum Corporation (EGPC) plus 11 smaller state oil companies **State Pipeline Companies:** Sumed-Arab Petroleum Pipeline Company (APP), Domestic pipelines-Petroleum Pipelines Company (PPC), Export gas pipelines-Egypt Trans-Gas Company (EGTC)

**Major Foreign Oil Company Involvement:** Apache, British Gas, BP-Amoco, Deminex, TotalFina-Elf, ENI-Agip, Exxon-Mobil, Marathon, Norsk Hydro, Novus, Repsol, Royal Dutch Shell, Samsung, Texaco

Major Ports: Alexandria, Port Said, Sidi Kerir, Ras Shukheir, Suez, Ain Sukhna Major Oil Fields: Belayim Marine, October, Morgan, Belayim, Badri, Ras Budran Major Gas Fields: Abu Madi, Abu Qir/North Abu Qir, Shukheir, Badreddin

Major Pipelines (capacity): Sumed pipeline (2.5 million bbl/d)

**Major Oil Refineries (crude oil capacity):** Cairo Petroleum Refining Company -- Mostorod (145,000 bbl/d), Tanta (35,000 bbl/d); El-Nasr Petroleum Company - Suez (99,300 bbl/d), Wadi Feran (7,060 bbl/d); Alexandria Petroleum Company - El Mex (100,000 bbl/d); Ameriya Petroleum Refining Co. (78,000 bbl/d); Suez Oil Processing Company - Suez (66,400 bbl/d); Assiut Petroleum Refining Co. (47,000 bbl/d)

# Links

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Links to other U.S. government sites:

CIA World Factbook - Egypt

U.S. Department of Energy's Office of Fossil Energy's International section - Egypt

U.S. State Department Consular Information Sheet - Egypt

U.S. State Department Country Report on Economic Policy and Trade Practices - Egypt (1998)

U.S. State Department Country Commercial Guide - Egypt (2000)

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Egyptian Geological Survey

**Ministry of Economy** 

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